

## ADDENDUM F

Seward Park Vegetation Management Plan

Shoreline Management Plan

## SHORELINE VEGETATIVE ASSESSMENT

### Canopy Cover and Invasive Shrub Concentration

In August, 2004 Seward Park's shoreline was assessed in terms of canopy cover and invasive shrub content. The intention of this study was to

- (1) identify shoreline areas currently shaded by trees
- (2) estimate the extent of invasive vegetation
- (3) identify potential sites for reforestation work.

The assessment was accomplished by vehicle. A line transect was GPS'ed along the outer edge of the cement roadway which rings the peninsula. A data dictionary named 'Shoreline' was created using Trimble's Pathfinder software package. The use of this data dictionary allowed the technician to enter all data directly into the GPS unit. A shapefile was later created using Pathfinder and was imported into ESRI's ArcGIS 8.3 software.

To estimate vegetative quality along the shoreline canopy cover was estimated. Using a common method, vegetative cover was divided into a Lower Canopy, which was below 10 feet, a Middle Canopy, which was between 10 and 20 feet and an Upper Canopy, which was greater than 20 feet. The transect was broken into sections based on a subjective analysis by the technician of site characteristic changes. For example, stretches of willow canopy were separated from stretches of Douglas fir canopy which was separated from stretches of open canopy. Whether there was canopy and whether the canopy overhung the water was identified for each section. Percent coverage along the transect was recorded for each dominant species.

Invasive content was estimated for total cover, for state noxious weed listing and by species for a select group of commonly found invasive plants. Total cover for each section was estimated in quartiles. This yielded estimated cover using five value brackets: 0, 0-25%, 26-50%, 51-75% and 76-100%.

### ESTIMATING CURRENT VEGETATIVE QUALITY ALONG THE SHORELINE

Estimation of Vegetative Quality was based on (1) whether there was canopy taller than 10 feet present, (2) whether that canopy was overhanging the water and (3) the estimated total invasive shrub content.

#### High Quality

Areas where the canopy above 10 feet was overhanging the water and the invasive concentration was less than 51% were ranked as HIGH quality.

#### Medium Quality

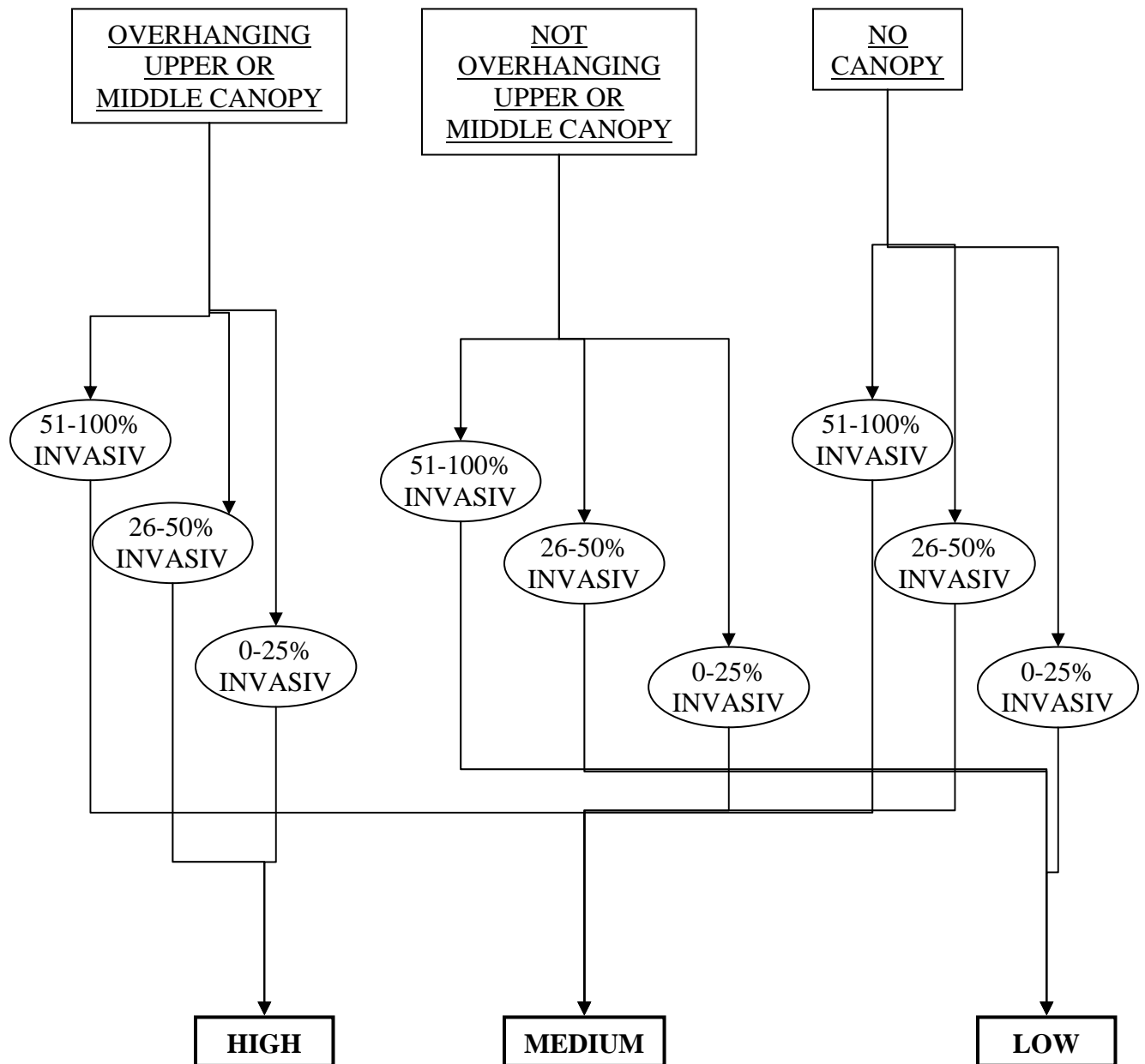
Areas where the canopy above 10 feet was overhanging the water and the invasive concentration was greater than 51%, areas where the canopy above 10 feet did not overhang the water but invasive concentration was less than 26% and areas of no canopy cover above 10 feet and an invasive concentration below 26% were ranked as MEDIUM.

#### Low Quality

Areas where the canopy cover above 10 feet did not overhang the water and invasive concentration was greater than 25% and areas of no canopy cover above 10 feet and greater than 25% invasive concentration were ranked as LOW.

## VEGETATIVE QUALITY FLOWCHART

---

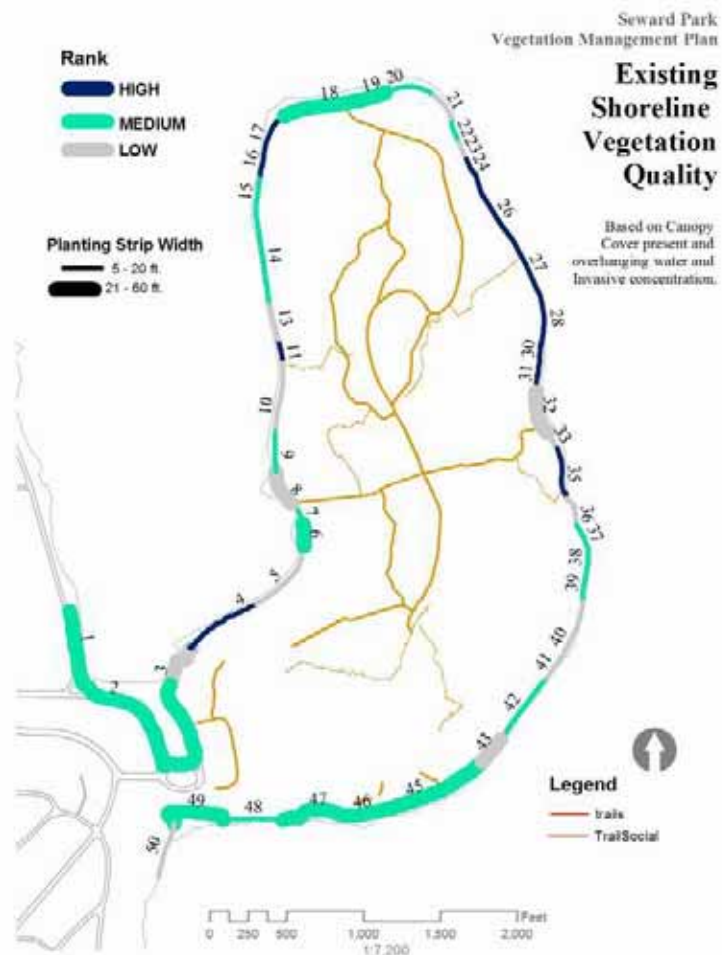


This flow chart is reproduced on the following page as a matrix. High quality areas were identified as having over-hanging upper canopy vegetation and less than 26% invasive understory species. Medium either had less than 26% invasive understory species and no overhanging upper canopy vegetation or had overhanging upper canopy vegetation with greater than 50% invasive understory species cover.

Note: Human use patterns were not factored into this survey and need to be considered when utilizing the potential planting map. Not all suggested planting sites are appropriate for upper canopy vegetation – e.g. beaches should remain open for recreational uses.

## VEGETATION QUALITY DECISION MATRIX

		VEGETATION QUALITY		
UPPER CANOPY COVER	INVASIVE COVER	HIGH	MEDIUM	LOW
OVERHANGING	0-25%	X		
	26-50%	X		
	51-100%		X	
NOT OVERHANGING	0-25%		X	
	26-50%			X
	51-100%			X
NONE	0-25%		X	
	26-50%			X
	51-100%			X



## Dominant Upper Canopy Species and Percent-Linear Cover

- Key**
- No Upper Canopy
  - Black Cottonwood
  - Douglas Fir
  - Maple
  - London Plane
  - Ghost Poplar
  - Lombardy Poplar



**Legend**

- trails
- Trail/Social

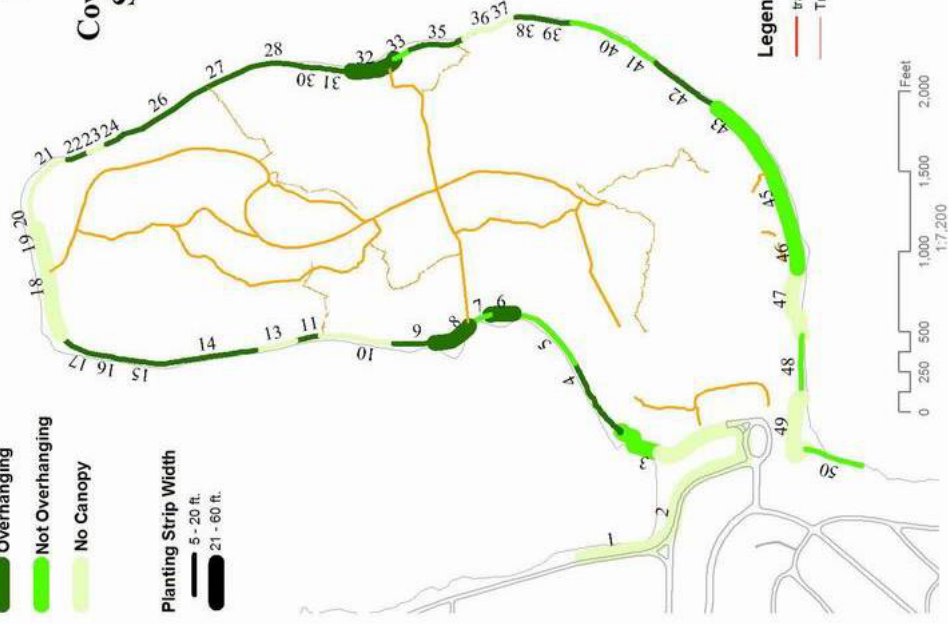
## Canopy Covering the Shore

- Overhanging
- Not Overhanging
- No Canopy

**Planting Strip Width**

- 5 - 20 ft.
- 21 - 60 ft.

## Existing Canopy Cover along Shoreline

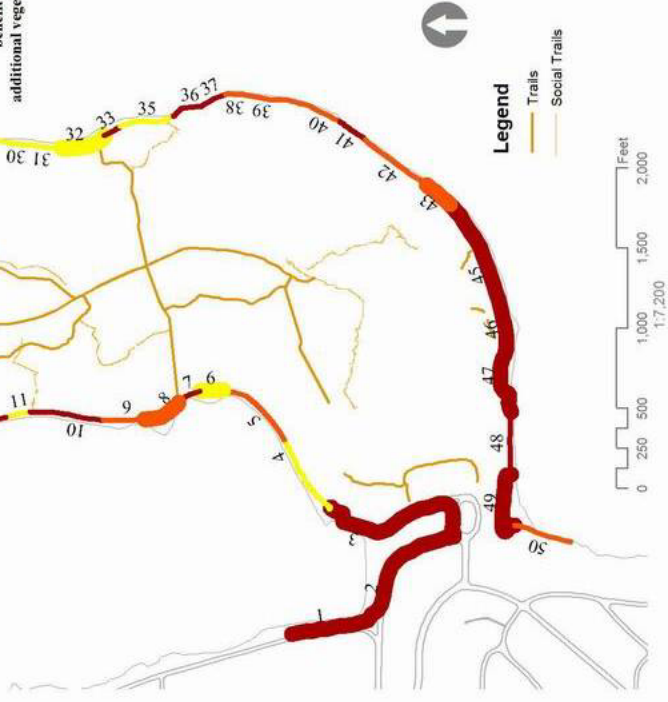


**Legend**

- trails
- Trail/Social

## Suggested Reforestation Sites

These are areas  
where vegetative  
quality along the  
shoreline would  
benefit from  
additional vegetation



## Suggested Invasive Removal Areas

These are areas  
where vegetative  
quality along the  
shoreline would  
benefit from  
invasive removal

